REMARKS

The present invention is concerned with a receiver for receiving two orthogonally polarized signals, and with compensating for interference between the signals in the two receiving branches.

In order to further bring out the particular applicability of the present invention to a receiver with two receiving branches, the main claim has been amended so as to add that the received signals on the receiving branches are independently phase synchronized with the transmitted signal. This enables them to be synchronized to different phases, the two receiving branches being independent of each other in their phase position. This is discussed in the final paragraph of the description of the present specification.

In the prior art arrangement shown in Fig. 2 of the present specification, phase synchronization of the signal on each receiving branch with the phase of the transmitted signal is achieved by using two local oscillators, VCOH1 and VCOV1 controlled by phase synchronization circuits PH1 and PV1 respectively. These receive their inputs from downstream, after adders AH and AV.

Similarly in the prior art arrangement shown in Fig. 3, the local oscillators VCOH2 and VCOV2 are controlled by phase synchronizers PH2 and PV2 to provide phase synchronization with the transmitted signal, by controlling the respective local oscillators.

In the present invention, as exemplified by the embodiment shown in Fig. 1, the phase synchronization of the received signals in the two receiving branches with the transmitted signal is carried out by components SH and SV after demodulation, and following compensation for interfering cross-signals.

The decoupling of the demodulation process from the phase synchronization between the transmitted and received signals is fundamental to the present invention.

Ohtsuka, et al. is concerned similarly with correction for interference between two receiving channels in a dual-polarization transmission system. Fig. 3 shows an arrangement with two receiving channels in which compensation for interference is carried out for both channels. However, and as the Examiner recognizes, there is no discussion or disclosure of phase synchronization between the signals on the channels and a transmitted signal. The reference is wholly silent on this point. There is no indication or suggestion that this should be implemented.

Patel does not appear to be concerned with dual-polarized transmission and receiving arrangements, and does not address an arrangement for receiving signals on two receiving channels or of the problems of interference between them which might arise.

Given this, it is difficult to envisage why a skilled person would attempt to combine the system disclosed in Patel with that of Ohtsuka. There is nothing to motivate such a combination.

Even if such a combination were to be attempted, it is not evident that it would lead to the present invention as a matter of straightforward design. Would it not be more likely that a skilled person, on being faced with Ohtsuka, would use the prior art approach disclosed in the present invention, i.e., in the Fig. 2 embodiment, using basically the same circuit layout as that shown in Fig. 3 of Ohtsuka but adding components equivalent to PH1 and PV1 of the present specification? Attempting to adapt the system shown in Patel to the arrangement of Ohtsuka would appear not to be a straightforward matter.

Allowance of claims 4-6 is respectfully requested.

A set of replacement drawings is enclosed.

Petition is hereby made for a three-month extension of the period to respond to the outstanding Official Action to November 4, 2005. A check in the amount of $1,020.00, as the Petition fee, is enclosed herewith. If there are any additional charges, or any overpayment, in connection with the filing of the amendment, the Commissioner is hereby authorized to charge any such deficiency, or credit any such overpayment, to Deposit Account No. 11-1145.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

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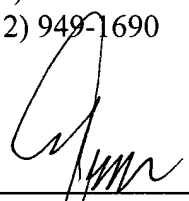

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DRAWING AMENDMENTS

Please replace the as-filed drawings with the replacement drawings enclosed herewith following page 6 herein.